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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,449	05/31/2001	Jun Miyokawa	205469US8	6588

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EXAMINER

LOUIE, WAI SING

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 05/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/867,449

Applicant(s)

MIYOKAWA ET AL.

Examiner

Wai-Sing Louie

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-62 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5. 6) ☐ Other: .

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-17, 21-22, 25-29, 31-40, 42-43, 47-48, and 50-62 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-61 of copending Application No. 09/867,549. Although the conflicting claims are not identical, they are not patentably distinct from each other because

With regard to claim 1, equivalent to 09/867,549 claim 1.

With regard to claim 2, equivalent to 09/867,549 claim 9.

With regard to claim 3, equivalent to 09/867,549 claim 3.

With regard to claim 4, equivalent to 09/867,549 claim 1.

With regard to claim 5, equivalent to 09/867,549 claim 3.

With regard to claim 6, equivalent to 09/867,549 claim 42.

With regard to claim 7, equivalent to 09/867,549 claims 3 and 46.

With regard to claim 8, equivalent to 09/867,549 claim 25.

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With regard to claim 9, equivalent to 09/867,549 claim 9.

With regard to claim 10, equivalent to 09/867,549 claim 46.

With regard to claim 11, equivalent to 09/867,549 claim 5 and 6.

With regard to claim 12, equivalent to 09/867,549 claim 23.

With regard to claim 13, equivalent to 09/867,549 claim 1.

With regard to claim 14, equivalent to 09/867,549 claim 35.

With regard to claim 15, equivalent to 09/867,549 claim 56.

With regard to claim 16, equivalent to 09/867,549 claim 14.

With regard to claim 17, equivalent to 09/867,549 claim 56.

With regard to claim 21, equivalent to 09/867,549 claim 14.

With regard to claim 22, equivalent to 09/867,549 claim 13.

With regard to claim 25, equivalent to 09/867,549 claim 16.

With regard to claim 26, equivalent to 09/867,549 claim 15.

With regard to claim 27, equivalent to 09/867,549 claim 14 and 15.

With regard to claim 28, equivalent to 09/867,549 claim 35.

With regard to claim 29, equivalent to 09/867,549 claim 35.

With regard to claim 31, equivalent to 09/867,549 claim 57.

With regard to claim 32, equivalent to 09/867,549 claim 58.

With regard to claim 33, equivalent to 09/867,549 claim 59.

With regard to claim 34, equivalent to 09/867,549 claim 15.

With regard to claim 35, equivalent to 09/867,549 claim 46.

With regard to claim 36, equivalent to 09/867,549 claim 54.

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With regard to claim 37, equivalent to 09/867,549 claim 17.

With regard to claim 38, equivalent to 09/867,549 claim 55.

With regard to claim 39, equivalent to 09/867,549 claim 56.

With regard to claim 40, equivalent to 09/867,549 claim 57.

With regard to claim 42, equivalent to 09/867,549 claim 12 and 13.

With regard to claim 43, equivalent to 09/867,549 claim 46 and 53.

With regard to claim 47, equivalent to 09/867,549 claim 60.

With regard to claim 48, equivalent to 09/867,549 claim 61.

With regard to claim 50, equivalent to 09/867,549 claim 54.

With regard to claim 51, equivalent to 09/867,549 claim 58.

With regard to claim 52, equivalent to 09/867,549 claim 59.

With regard to claim 53, equivalent to 09/867,549 claim 3.

With regard to claim 54, equivalent to 09/867,549 claim 6.

With regard to claim 55, equivalent to 09/867,549 claim 49 and 56.

With regard to claim 56, equivalent to 09/867,549 claim 53.

With regard to claim 57, equivalent to 09/867,549 claim 9.

With regard to claim 58, equivalent to 09/867,549 claim 1.

With regard to claim 59, equivalent to 09/867,549 claim 50 and 51.

With regard to claim 60, equivalent to 09/867,549 claim 1.

With regard to claim 61, equivalent to 09/867,549 claim 46.

With regard to claim 62, equivalent to 09/867,549 claim 54.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 9, 13, 16-20, 22-24, 32, 35, 41-44, 46-48, 51, 57-58, and 61 are rejected under 35 U.S.C. 102(b) as being anticipated by Janssen et al. (US 5,570,444).

With regard to claims 1, 35, and 58 Janssen et al. disclose an optical assembly (col. 2, line 66 to col. 4, line 62 and fig. 3) comprising:

- A laser diode 3;
- An optical system including an optical fiber 4 and a lens 5, the optical system being configured to receive and transmit a beam emitted from the laser diode 1 through the lens to the optical fiber along an optical axis (fig. 3);
- A fastening means 11 for supporting at least a portion of the optical system (fig. 3);
- A base 9 configured to support the laser diode and at least a portion of the optical system, the base 9 including a structure support member 8 configured to prevent

warping of the base 9, the structural support member 6 extending along the base 9 in a direction generally parallel to the optical axis (fig. 3);

- A bottom plate 2 configured to support the laser diode 3, the optical system, and the base 9.

With regard to claim 2, Janssen et al. disclose the base 9 includes a plurality of structural support members 8 and 13 extending along the base 9 in a direction generally parallel to the optical axis (fig. 3).

With regard to claim 3, Janssen et al. disclose the structural support member 8 extends along the base 9 on the first side of the optical fiber, and where the base 9 further including an additional structural support member 8 and 13 extending along the base in a direction generally parallel to the optical axis, the additional structural support member 8 and 13 extending along the base on a second side of the optical fiber, the second side being opposite to the first side (fig. 2 and 3).

With regard to claims 4, Janssen et al. disclose the optical fiber 4 has a portion contained within a holder 6 (fig. 3).

With regard to claim 9 and 57, Janssen et al. disclose the base 9 comprises a fastening member 8, the holder 6 being coupled to the fastening member 8 (fig. 3).

With regard to claims 13 and 61, Janssen et al. disclose the base 9 is directly fixed on the bottom plate (fig. 3).

With regard to claims 16 and 22, Janssen et al. disclose the structural support member 8 and 13 extends along the holder-mounting member 6 (fig. 3).

With regard to claim 17, Janssen et al. disclose the structural supports 8 and 13 extend along the laser diode-mounting member (fig. 3)

With regard to claims 18 and 20, Janssen et al. disclose a U-shaped laser diode-mounting member 1 taken along a plane transverse to the optical axis (fig. 3). The U-shaped laser diode mounting member 1 and the holder mounting member 8 and 9 are arranged to form together a U-shaped cross-section area taken along a plane transverse to the optical axis around the laser diode (fig. 3).

With regard to claim 19 and 23-24, Janssen et al. disclose two blocks 9 form an U-shaped holder-mounting member, which is in transverse to the optical axis. Janssen et al. disclose the fastening member 11 is arranged has a U-shaped cross-section area taken along a plane transverse to the optical axis and the fastening member 12 is welded to the holder 6 at a single point (fig. 3).

With regard to claims 32 and 51, Janssen et al. disclose the lens formed on the tip end of the optical fiber and is arranged opposite a light-emitting facet of the laser diode 3 (fig. 3).

With regard to claims 41, 44, and 46, Janssen et al. disclose a slotted rod 6 (warping preventing means) is provided on at least one side of the optical axis that connects a laser beam-emitting facet of the laser diode and the optical fiber 4 (fig. 3).

With regard to claim 42, Janssen et al. disclose a plurality of fastening means 11 are provide to support the optical fiber at positions which are separated by mutual interval in a direction of the optical axis (fig. 3)

With regard to claim 43, Janssen et al. disclose one of the plurality of fastening means 11, which is located closest to the laser diode is formed of an integral part provide with clamping portion configured to contact the optical fiber on two sides (fig. 3).

With regard to claim 47-48, Janssen et al. disclose the fastening means mounting member are made of KOVAR, which is a Fe-Ni-Co alloy (col. 4, line 34).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-8, 10, 14-15, 28-29, 36-39, 50, 53-56, 60, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janssen et al. (US 5,570,444) in view of Yoshino (US 5,924,290).

With regard to claims 5 and 53, Janssen et al. disclose the lens is a discrete lens supported by the slotted rod 6 (fig. 3), but do not disclose the slotted rod 6 (holder) is supported by the base. However, Yoshino disclose an optical assembly including a carrier 3 (base) supporting the holder, the optical system, and the laser diode (Yoshino fig. 2). Therefore, the optical system will always be in alignment. Hence, it would have been obvious at the time the invention was made to provide a base for Janssen's device in order to tie the components together.

With regard to claims 6 and 54, Janssen et al. do not disclose an optical isolator. However, Yoshino discloses an optical assembly including an optical isolator 8 (Yoshino fig. 2). Yoshino teaches the optical isolator 8 serves to prevent reflected light of the output light beam from entering the optical fiber (Yoshino col. 6, lines 17-19). Therefore, it would have been obvious to one with ordinary skill in the art to provide an optical isolator in order to prevent the reflected light from entering the optical fiber. Janssen et al. disclose the optical assembly is configured to receive and transmit the beam emitted from the laser diode through the lens and the isolator to the optical fiber along an optical axis (fig. 3).

With regard to claims 7, 15 and 55, Janssen et al. disclose:

- The discrete lens is mounted within the holder 9 (col. 1, lines 21-25 and fig. 3);
- Janssen et al., modified by Yoshino in claim 5 above, would disclose a base for supporting the holder, the optical system, and the laser diode (Yoshino fig. 2).

With regard to claims 8 and 56, Janssen et al., modified by Yoshino in claim 6 above, would have an optical isolated and Yoshino discloses the optical isolator is mounted to the holder-mounting member secured by the fastening means 11 (Yoshino fig. 2).

With regard to claim 10, Janssen et al. do not disclose the optical fiber is supported by the bottom plate. However, one end of the optical fiber 10 is supported by the package wall 5b, which is connected to the bottom plate 5a. Therefore, it is obvious the optical fiber 10 is supported by the bottom plate (fig. 2).

With regard to claims 14, 28, 36, and 62, Janssen et al. do not disclose a thermo module coupling the base to the bottom plate. However, Yoshino discloses an optical assembly including a peltier unit (thermo module) 6 (Yoshino col. 5, lines 42-48 and fig. 2). Yoshino teaches the

heat generated in the laser optical module during operation is transmitted to the peltier unit, thereby cooling the laser element (Yoshino col. 3, lines 61-65). Therefore, it would have been obvious to one with ordinary skill in the art to provide a peltier unit in order to dissipate heat.

With regard to claims 37-39, Janssen et al., modified by Yoshino in claim 14 above, would disclose a peltier unit 6. However, Yoshino discloses an optical assembly including a peltier unit 6, which comprises a first plate 6b attached to a portion of the module's base 5a, a peltier element 6a attached to the first plate 6b, and a second plate 6c attached to the peltier element 6a and the first plate 6b (Yoshino col. 5, lines 42-48 and fig. 2). Yoshino discloses the laser diode-mounting member disposed on the peltier unit 6 projects in a direction parallel to the optical axis from an end portion of the optical fiber 10 to the mounting side of the peltier unit (fig. 2).

With regard to claim 29, Janssen et al., modified by Yoshino in claim 14 above, would disclose a peltier unit coupling the laser diode-mounting member to the bottom plate 5a (Yoshino fig. 2).

With regard to claims 50 and 60, Janssen et al. modified by Yoshino would have a package 5, which configures to accommodate and the laser diode, the optical module, and the peltier unit. The package includes the bottom plate 5a (Yoshino fig. 2).

Claims 21, 25-27, 30-31, 34, 40, 45, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janssen et al. (US 5,570,444).

With regard to claim 21, Janssen et al. disclose a fastening member 11, the holder 6 being coupled to the fastening member 11.

With regard to claim 25, Janssen et al. disclose the fastening member 11 is coupled to the holder at a location adjacent the lens portion (fig. 3).

With regard to claims 26-27, Janssen et al. do not disclose the recessed portions on the holder-mounting member. However, Janssen et al. provide block 9 as structural support to the sliding member 8. Two blocks together would form a recess in between (fig. 3). Janssen et al. disclose a plurality of fastening members 11 received within recessed portion on the holder-mounting member 8.

With regard to claims 30, Janssen et al. do not disclose the holder mounting member have a thermal conductivity lower than a thermal conductivity of the laser mounting member. However, One with ordinary skill in the art would choose a material for optical system mounting member has a thermal conductivity lower than a thermal conductivity of the laser diode-mounting member so that the optical system has less movement than the first plate to minimize the thermal stress.

With regard to claims 31 and 40, Janssen et al. do not disclose the laser diode-mounting member has a reinforcement portion. However, one with ordinary skill in the art would add a reinforcement portion when needed. This is merely a design choice.

With regard to claim 34, Janssen et al. do not disclose the structural support member having a lower surface affixed to an upper surface of the laser diode-mounting member. However, one with ordinary skill in the art would add a structural support member to affix the upper surface of the laser diode-mounting member in order to adjust the height of the laser diode in order to line up with the optical fiber.

With regard to claim 45, Janssen et al. disclose the base 9 has a fastening means mounting member on which the fastening means 11 is mounted, but do not disclose a laser diode mounting member on which the laser diode is mounted with the fastening means mounting member to form an integral member. However, since the criticality has not been established, both support position are considered as equivalent.

With regard to claim 49, Janssen et al. do not disclose the warping-preventing means 6 is formed of a Fe-Ni-Co alloy. However, since other mounting members are made of a Fe-Ni-Co alloy. Therefore, it is obvious the warping-prevent means could be made of a Fe-Ni-Co alloy.

Claims 11-12, 33, 52, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janssen et al. (US 5,570,444) in view of Miki et al. (US 6,094,515).

With regard to claim 11, Janssen et al. disclose the assembly comprises of one lens. However, Miki et al. disclose an optical module having two lenses 16 and 26 (fig. 3). Miki et al. teach lens 26 is a condenser lens and lens 16 is a collimator lens to confine the light into the optical fiber (Miki col. 7, lines 22-33). Therefore, it would have been obvious to one with ordinary skill in the art to provide a second lens in order to confine the light into the optical fiber. Janssen et al. disclose the optical assembly is configured to receive and transmit the beam emitted from the laser diode through the lenses to the optical fiber along an optical axis (fig. 3).

With regard to claims 12 and 59, Janssen et al. do not disclose a package including the bottom plate, which configures to support the second lens and the optical fiber. However, Miki's device includes a housing 2 and a bottom wall 6 configured to support the second lens and the optical fiber (Miki col. 4, lines 8-13 and fig. 2). Miki et al. teach the housing is for sealing the

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optical module (Miki col. 4, lines 9-11). Therefore, it would have been obvious to one with ordinary skill in the art to provide a housing so that the optical module would be sealed and be protected.

With regard to claims 33 and 52, Janssen et al. do not disclose the lens 5 is an anamorphic lens. However, Miki et al. disclose the anamorphic lens has been used for coupling with light emitted from the laser diode to the optical fiber (Miki col. 1, lines 11-18). Therefore, it is obvious to choose an anamorphic lens if needed.

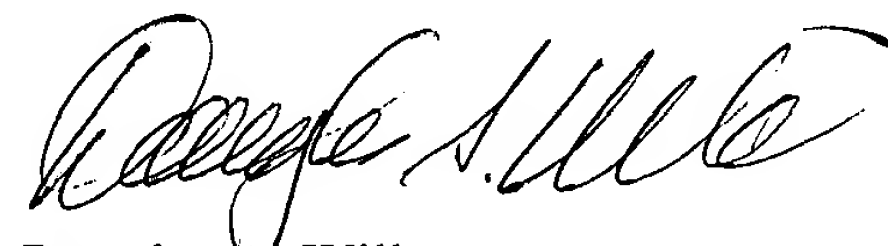
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai-Sing Louie whose telephone number is (703) 305-0474. The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (703) 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

wsl

May 16, 2002



Douglas A. Wille
Patent Examiner